

Farmworker Forced into Conveyer Mechanism

SUMMARY

A 36 year old male farm laborer died at the scene of a feedlot operation from preventable injuries incurred while operating a chain-drag elevator to transport hay cubes from a truck to a grinder. The victim was operating a truck mechanism designed to feed hay cubes from the truck into the hopper of a 60'-65' elevator, and the conveyer mechanism designed to carry the hay cubes from the hopper to an attached grinder. For unknown reasons, the worker was inside the hopper with both the truck dispensing unit and the conveyer mechanism turned on. The worker apparently lost his balance while inside the hopper and was transported feet-first into a sheet metal end panel, becoming entrapped as the conveyer motion carried him into a 36" x 11" panel opening. The victim was seen by a fellow worker, who shut off the equipment and called Emergency 911.

Employers may be able to minimize the potential for occurrence of this type of incident through the following precautions:

- **Emphasize the hazards of operating machinery in an unsafe manner by posting safety rules where employees gather.**
- **Conduct periodic safety briefings to remind employees of safety considerations.**
- **Encourage employees to participate in First Aid or EMT training.**

INTRODUCTION

Late on a Tuesday morning, March 17, 1992, a farm laborer who had been operating a hay-cube grinding mechanism, apparently lost his footing while inside the hopper of a 65' elevator with a live floor conveyor belt. The prescribed method of operation was to watch from inside the cab of a nearby truck until the amount of material in the truck was low enough to require an adjustment to the disposal mechanism. All operations could be conducted without worker access to moving parts, and shut-off mechanisms for all operations were accessible to the worker without encountering any mechanical hazards. Other workers were within sight of the victim, conducting various activities pertinent to a feedlot operation.

During the dispensing of hay-cube materials from the truck to the elevator, temporary plywood panels were inserted adjacent to the dispensing unit to prevent spillage of the materials outside of the hopper area. Witnesses speculate that the panel furthest from the truck cab location may have fallen into the hopper, and that the victim was trying to recover the panel by entering the hopper. The victim apparently slipped into the moving conveyor belt, and was carried feet-first into an 11"x 36" opening of a welded sheet metal hopper box casing. The upward movement of the conveyor belt forced the victim's body into the opening, compressing his chest to a point where breathing was terminated.

Witnesses became aware of the incident when the victim's feet and legs rose up above the sides of the elevator. They then rushed to the scene, turned off the equipment, and called Emergency 911. Fellow workers who were trained EMT and Fire Rescue volunteers felt that the victim had expired by the time they reached him. A Deputy Coroner confirmed that death had occurred within seconds, and the sheet metal had to be cut away in order to remove the victim's body.

INVESTIGATION

Through a reciprocal notification agreement with the OSHA Administrator of the Wyoming Department of Employment, the WY-FACE Project was notified of the incident at 11:15 a.m. on March 18. Subsequently, a meeting was conducted with the employer, and the incident site was photographed. Conversations were held with the county sheriff and coroner, and reports were requested.

The employer has been in business for nine years, overseeing activities as diverse as crop production, hay cubing, feedlot operations and trucking. The business is a small rural operation, consisting of 10 employees. There are no written safety rules and procedures other than those proscribed by DOT for trucking firms, but workers receive on-the-job training regarding the hazards and operations of pertinent equipment.

The victim had been employed by this company for over three years, and had conducted the activity that took his life several times during that three year period. He had been involved in the specific operation for four to five days prior to his death, and had successfully unloaded four truckloads of hay-cube materials during the morning. The operation being performed was a normal activity for the company and for the employee. The victim did not appear to have been under recent stress, or seem physically or emotionally at risk. The worker was wearing slick-soled shoes, which would not have contributed to the risk if he had been within his prescribed work area.

The job required that a worker turn off engines before entering hazardous areas. The task was not particularly hazardous if performed with reasonable caution, and there appeared to have been instructions as to proper safety considerations. The employer and his family are well oriented in safety, as they include trained EMT and fire rescue personnel, and the Fire Chief of the community in which they live. The presence of trained EMT/fire rescue personnel on the worksite produced quick and accurate response decisions following awareness of the incident. Distances involved prevented more immediate awareness.

Temporary panels seem to have been insecure. Some engines (truck, disposal unit, and conveyor) should have been turned off before the worker attempted to retrieve or dislodge loose materials. Duties of fellow workers required engine operation that would block out calls for help, and physical distances that would prohibit constant oversight. The worker was physically unable to stop the machinery or to extricate himself from the conveyor movement.

CAUSE OF DEATH

The Medical Examiner listed the cause of death as Traumatic Asphyxia due to compressed chest.

RECOMMENDATIONS/DISCUSSION

Care should be taken to emphasize the hazards of operating machinery in an unsafe manner. Employees should be reminded not to attempt to unclog machinery or to enter hazardous areas such as the hopper of a grain elevator without first turning off all engines or motors. It appears that such warnings had been issued to employees of this company during routine on-the-job training, particularly to new workers conducting unfamiliar activities.

It appears that fellow workers reacted as quickly as would have been practical, realizing that work activities were being conducted and farm equipment was being used in pursuit of those activities. The quick response by qualified persons on the scene and by ambulance and law enforcement personnel to a rural location seem appropriate.

There would be an advantage to developing and posting written safety rules for operation of farm equipment, and to develop a system for periodic review of safe equipment operation by all farm workers.

FATAL ACCIDENT CIRCUMSTANCES AND EPIDEMIOLOGY (FACE) PROJECT

The National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR), performs Fatal Accident Circumstances and Epidemiology (FACE) investigations when a participating state reports an occupational fatality and requests technical assistance. The goal of these evaluations is to prevent fatal work injuries in the future by studying the working environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact.

States participating in this study include: Georgia, Indiana, Kentucky, Maryland, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia.

NIOSH Funded/State-based FACE Projects providing surveillance and intervention capabilities to show a measurable reduction in workplace fatalities include: Alaska, California, Colorado, Massachusetts, New Jersey, Minnesota, Missouri, Wisconsin, and Wyoming.

Additional information regarding this report is available from:

Wyoming Occupational Fatality Analysis Program
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Cheyenne, WY 82002
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Please use information listed on the Contact Sheet on the NIOSH FACE web site to contact [In-house FACE program personnel](#) regarding In-house FACE reports and to gain assistance when State-FACE program personnel cannot be reached.